Claims:

1. A method for detecting a specific mutation in the B-RAF gene, which comprises:

(a) subjecting a segment of the B-RAF gene containing the mutation to amplification by a PCR utilizing a DNA polymerase without 3'→5' exonuclease activity in the presence of a detection primer and a second primer, wherein 3' end of the detection primer is complementary to a mutated base on a first DNA strand of the B-RAF gene and the second primer is complementary to a segment of the opposite DNA strand of the B-RAF gene and selected such that a detectable amplification product will be produced if the PCR occurs; and

(b) detecting whether the DNA segment is amplified.

2. A method of Claim 1, wherein the detection primer comprises SEQ ID Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14.

3. An oligonucleotide primer comprising SEQ ID Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14.

4. An oligonucleotide primer comprising SEQ ID Nos. 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27 or 28.

5. An oligonucleotide primer comprising SEQ ID Nos. 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41 or 42.

6. An oligonucleotide primer comprising SEQ ID Nos. 57, 59, 60, 61 or 62.

7. An oligonucleotide primer according to claim 4 for use as a detection primer according to the method of claim 1.

8. An oligonucleotide primer according to claim 5 for use as a detection primer according to the method of claim 1.

9. An oligonucleotide primer according to claim 6 for use as a detection primer according to the method of claim 1.